1898MNRAS..59...54.

The following Candidates were proposed for election as Fellows of the Society, the names of the proposers from personal knowledge being appended :—

E. M. Antoniadi, Astronome, Observatoire de Juvisy, Seine-et-Oise, France (proposed by Capt. W. Noble);
John Jepson Atkinson, Barrister-at-Law, Cosgrove Priory, Stony Stratford (proposed by A. A. Common);
W. Lee Dickinson, M.D., F.R.C.P., Assistant Physician, St. George's Hospital, 9 Chesterfield Street, Mayfair, W. (proposed by E. J. Spitta);
John James Hall, L. and S.W. Railway, London; and Observatory Cottage, Datchet Road, Slough, Bucks (proposed by W. H. Walmsley);
Joseph Larmor, M.A., D.Sc., F.R.S., St. John's College, Cambridge (proposed by H. F. Newall);
John H. Reynolds, Malvern House, Trinity Road, Birchfield, Birmingham (proposed by Sir J. B. Stone);
Charles Almeric Rumsey, B.A. (Trinity College, Cambridge), Master at Dulwich College, London, S.E. (proposed by E. T. Whittaker);
Charles Stevens, Civil Servant, 10 Wemyss Road, Blackheath, S.E. (proposed by P. L. H. Davis);
William Harold Tingey, B.A., F.R. Met. Soc., Rede Court, Rochester, Kent (proposed by H. J. Adams);
Thomas Weir, Secretary, North Western (Manchester) Branch of the British Astronomical Association, 56 Parkfield Street, Moss Lane East, Manchester (proposed by E. W. Maunder); and
Algernon Charles Legge Wilkinson, B.A., Trinity College, Cambridge (proposed by E. T. Whittaker).

Sixty presents were announced as having been received since the last meeting, including amongst others :—

Ch. André, Traité d'astronomie stellaire, 1re partie, presented by the Author; Bonn Beobachtungen, Band vii., Fortsetzung und Schluss (Argelander, Nachgelassene Beobachtungen, &c.), presented by the Observatory; H. Coddington, Optics, second edition, and W. Kitchener, The Economy of the Eyes, part 1, presented by Prof. Meldola; Galileo, Opere, edizione nazionale, vol. viii., presented by the Italian Government; Lowell Observatory, Annals, vol. i., presented by Percival Lowell; Leiden Observatory, Annalen, Band 7, presented by the Observatory; Madras Observatory Report for 1897–98, and on the Eclipse Expedition of 1898 January, presented by the Observatory; Milan, R. Inst. Lombardo, Memorie, vol. xviii. fasc. 5 (G. V. Schiaparelli, Origine del sistema planetario eliocentrico presso i Greci), presented by the Institute; Companion to the Observa-

Downloaded from http://mnras.oxfordjournals.org/ at University of Victoria, McPherson Library Serials on July 11, 2015

© Royal Astronomical Society • Provided by the NASA Astrophysics Data System

1898MNRAS..59...54.

tory, 1899, presented by the Editors; *American Nautical Almanac* papers, vol. vi., part 4 (Newcomb, Tables of *Mars*), presented by the *American Nautical Almanac* Office; and a series of solar photographs (original negatives), presented by G. J. Newbegin.

The Division Errors of the Greenwich Transit Circle and some questions related to Them. By F. W. Dyson and W. G. Thackeray.

[*Abstract.*]

In this paper an account is given of a new determination of the division errors of the Greenwich Transit Circle, made in 1898, with a view to explaining the discordances in the circumpolar observations as given by the Astronomer Royal in his report to the Board of Visitors in 1898 June. As the Greenwich Transit Circle is ordinarily read by six equidistant microscopes, the determination of the division errors consists in the subdivision of an arc of 60°. This is first divided into three parts, and the arcs of 20° subdivided into the arcs of 5°, and then the 5° arcs subdivided into single degrees. The first determination was made in 1851, taking 0°, 20°, 40° as the primary divisions. This was repeated in 1856. In 1871 a new determination was made, taking 10°, 30°, 50° as the primary divisions. In 1898 two determinations were made, taking 5°, 25°, 45°, and 15°, 35°, 55° as the primary divisions. The final result of the errors of the 5° divisions was obtained from the mean of the determinations in 1856, 1871, and the two determinations in 1898. A further determination of the single degree divisions was made, and of the 5′ divisions used in the observations of the close polar stars. Tables are given of the new division errors, and of corrections to those in use in the different years since 1851.

The corrections thus determined to the division errors in use are applied to—

(1) The residuals in the R—D discordance.
(2) The differences between the N.P.D.'s obtained from observations made above and below pole at Greenwich given in the Introduction to the 1880 Catalogue.
(3) The differences between the Greenwich and Cape N.P.D.'s, as given in the Introduction to the Cape 1885 Catalogue.
(4) The Greenwich Sun observations.

The following table, derived from the Introduction to the Greenwich Catalogue for 1880 by grouping the stars in zones of 3°, gives the excess of the N.P.D. from observations made above pole :—

Downloaded from http://mnras.oxfordjournals.org/ at University of Victoria, McPherson Library Serials on July 11, 2015

© Royal Astronomical Society • Provided by the NASA Astrophysics Data System